

10/580564

SEQUENCE LISTING

AP20 Rec'd PCT/PTO 26 MAY 2006

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<120> Method for Preventing and Treating Diabetes Using DG119

<130> 2923-757

<150> PCT/EP04/013535

<151> 2004-11-29

<150> EP 03 027 514.3

<151> 2003-11-28

<160> 13

<170> PatentIn version 3.3

<210> 1

<211> 719

<212> PRT

<213> Danio rerio

<400> 1

Met Thr Glu Met Lys Ile Trp Cys Val Leu Leu Met Ala Phe Ala Leu
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Thr Ser Ala Ala Pro Lys Ser His Leu Arg Leu Glu Glu Lys Thr Lys
20 25 30

Asp Asn Asn Asp Thr Leu Gln Val Glu Ile Asp Asn Gln Glu His Ile
35 40 45

Leu Ser Gln Leu Leu Gly Asp Tyr Asp Lys Val Lys Ala Leu Ser Glu
50 55 60

Gly Ser Asp Cys Gly Cys Lys Cys Val Val Arg Pro Leu Ser Ala Ser
65 70 75 80

Ala Cys Gln Arg Ile Arg Glu Gly His Ala Thr Pro Gln Asp Phe Tyr
85 90 95

Thr Val Glu Thr Ile Thr Ser Gly Pro His Cys Lys Cys Ala Cys Ile

100		105		110											
Ala	Pro	Pro	Ser	Ala	Leu	Asn	Pro	Cys	Glu	Gly	Asp	Phe	Arg	Leu	Lys
		115					120					125			
Lys	Leu	Arg	Gln	Ala	Gly	Lys	Asp	Asn	Ile	Lys	Leu	Ser	Thr	Ile	Leu
	130					135					140				
Glu	Leu	Leu	Glu	Gly	Ser	Phe	Tyr	Gly	Met	Asp	Leu	Leu	Lys	Leu	His
145					150					155					160
Ser	Val	Thr	Thr	Lys	Ile	Leu	Asp	Arg	Met	Asp	Thr	Ile	Glu	Lys	Met
				165					170					175	
Val	Leu	Asn	Asn	Gln	Thr	Glu	Glu	Lys	Leu	Asn	Thr	Ile	Ser	Thr	Ser
			180					185					190		
Pro	Asn	Pro	Gln	Leu	Ser	Thr	Ser	Ser	Pro	Thr	Thr	Leu	Pro	Ser	Val
		195					200					205			
Ile	Gln	Glu	Lys	Ser	Thr	Ser	Leu	Arg	Gln	Gln	Asn	Asp	Glu	Ala	Ala
	210					215					220				
Ala	Phe	Gln	His	Met	Glu	Ser	Lys	Tyr	Glu	Glu	Lys	Phe	Val	Gly	Asp
225					230					235					240
Ile	Leu	Asn	Ser	Gly	Ser	Asp	Leu	Asn	Lys	Ala	Thr	Thr	Ala	Leu	Gln
				245					250					255	
Glu	Gln	Glu	Gln	Gln	Gly	Arg	Lys	Lys	Gln	Pro	Lys	Ile	Thr	Val	Arg
			260					265					270		
Gly	Ile	Thr	Tyr	Tyr	Arg	Ser	Asp	Pro	Val	Asp	Glu	Met	Asp	Ser	Glu
		275					280					285			
Lys	Asn	Leu	Lys	Glu	Thr	Ser	Ala	Ser	Ser	Val	Thr	Gln	Thr	Gly	Ala
	290					295					300				
Leu	Ile	Lys	Glu	His	Leu	Lys	Ala	Ser	Thr	Gln	Ser	Thr	Leu	Asn	Thr
305					310					315					320

Leu Thr Pro Ser Pro Thr Ser His Ser Asn Ala Leu Thr Val Thr Glu
325 330 335

Ser Ser Val Gly Ile Asn Ala His Lys Gly Glu Val Thr Thr Ile Val
340 345 350

Met Thr Ala Ser Val Thr Gly Ser Lys Thr Asp Ser Val Thr Asp Leu
355 360 365

Thr Gln Leu Ser Pro Arg Val Arg Glu Thr Leu Thr Thr Thr Arg Thr
370 375 380

Thr Thr Lys Thr Ala Thr Thr Ser Gln Pro Val Lys Arg Lys Tyr Ser
385 390 395 400

Ile Ser Trp Asp Glu Glu Glu Glu Ala Val Val Pro Glu Gln Val Glu
405 410 415

Glu Glu Lys Ala Val Lys Pro Val Val Glu Asp Lys Val Gly Glu Glu
420 425 430

Pro Gln Arg Lys Pro Gly Thr Ala His His Gln Ala Lys Thr Ile Ser
435 440 445

Thr Val Lys Gln Gln Ile Lys Phe Ser Leu Gly Met Cys Lys Asp Thr
450 455 460

Leu Ala Thr Ile Ser Glu Pro Ile Thr His Asn Thr Tyr Gly Arg Asn
465 470 475 480

Glu Gly Ala Trp Met Lys Asp Pro Leu Asp Gln Asp Asp Lys Ile Tyr
485 490 495

Val Thr Asn Tyr Tyr Tyr Gly Asn Asn Leu Leu Glu Phe Arg Asn Ile
500 505 510

Asp Val Phe Lys Gln Gly Arg Phe Thr Asn Ser Tyr Lys Leu Pro Tyr
515 520 525

Asn Trp Ile Gly Thr Gly His Val Val Tyr Lys Gly Ala Phe Tyr Tyr
530 535 540

Asn Arg Ala Phe Ser Arg Asp Ile Ile Lys Phe Asp Leu Arg Leu Arg
 545 550 555 560

Tyr Val Ala Ala Trp Thr Met Leu His Asp Ala Val Phe Glu Asn Asp
 565 570 575

Asp Val Ser Ser Trp Arg Trp Arg Gly Asn Ser Asp Met Asp Leu Ala
 580 585 590

Ile Asp Glu Ser Gly Leu Trp Val Ile Tyr Pro Ala Leu Asp Asp Glu
 595 600 605

Gly Phe Leu Gln Glu Val Ile Val Leu Ser Arg Leu Asn Pro Thr Asp
 610 615 620

Leu Ser Met Lys Arg Glu Thr Thr Trp Arg Thr Gly Leu Arg Arg Asn
 625 630 635 640

Arg Tyr Gly Asn Cys Phe Ile Val Cys Gly Val Leu Tyr Ala Thr Asp
 645 650 655

Ser Tyr Asn Gln Gln Asp Thr Asn Leu Ser Tyr Ala Phe Asp Thr His
 660 665 670

Thr Asn Thr Gln Val Ile Pro His Leu Pro Phe Ser Asn Asn Tyr Thr
 675 680 685

Tyr Val Thr Gln Ile Asp Tyr Asn Pro Lys Glu Arg Val Leu Tyr Ala
 690 695 700

Trp Asp Asn Gly His Gln Val Thr Tyr Asn Val Gln Phe Ala Tyr
 705 710 715

<210> 2
 <211> 594
 <212> PRT
 <213> Danio rerio

<220>
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 <222> (198)..(198)
 <223> Xaa can be any naturally occurring amino acid

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Met Gly Leu Leu Leu Tyr Ile Phe Cys Cys Val Phe Cys Leu Thr Arg
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Ala Asn Val Glu Gln Gln Ala Thr Asp Asn Thr Asp Asn Arg Ala Thr
20 25 30

Leu Glu Asp Glu Met Asp Asn Gln Glu Asn Ile Leu Thr Gln Leu Ile
35 40 45

Gly Asp Tyr Asp Lys Val Lys Thr Leu Ser Glu Gly Ser Asp Cys Gln
50 55 60

Cys Lys Cys Val Val Arg Pro Met Ser Arg Ser Ala Cys Lys Arg Ile
65 70 75 80

Glu Glu Ala Gln Ala Lys Ile Glu Asp Phe Tyr Thr Val Glu Pro Val
85 90 95

Thr Ala Gly Pro Asn Cys Lys Lys Cys Ala Cys Ile Ala Pro Pro Ser
100 105 110

Ala Leu Asn Pro Cys Glu Gly Asp Phe Arg Phe Lys Lys Leu Gln Lys
115 120 125

Thr Gly Gln Tyr Asp Ile Lys Leu Ser Asn Ile Met Asp Leu Leu Glu
130 135 140

Glu Arg Val Asp Asn Ile Glu Lys Gly Glu Lys Gly Gln Gly Lys Gly
145 150 155 160

Ala Arg Ser Asn Gln Arg Gln Glu Lys Lys Lys Arg Leu Ser Val Val
165 170 175

Cys Trp Ser Leu His Cys Arg Arg Thr Gln Gln Arg Leu Leu Leu Thr
180 185 190

Leu Arg Tyr Arg Cys Xaa Ser Val Leu Glu Pro Ser Leu Gln Lys Asn
195 200 205

Ala	Ala	Ala	Ala	Phe	Ala	His	Thr	Glu	Val	Gln	Met	Gln	Gln	Phe	Ile
210						215					220				
Pro	Asp	Gln	Arg	Lys	Tyr	Glu	Glu	Lys	Phe	Val	Gly	Asn	Gln	Gly	Pro
225					230					235					240
Ser	Lys	Pro	Val	Leu	Lys	Lys	Ser	Lys	Ser	Glu	Gly	Gln	Glu	Glu	Gln
				245					250					255	
His	Lys	Pro	Ala	Lys	Thr	Lys	Ala	Asp	Ala	Lys	Asn	Met	Ser	Leu	Arg
			260					265					270		
Ser	Met	Thr	Phe	Tyr	Lys	Ala	Asn	Arg	Met	Glu	Asp	Ser	Glu	Gly	Glu
		275					280					285			
Glu	Arg	Asp	Leu	Ile	Ile	Glu	Asp	Gln	Leu	His	Lys	Gln	Gly	Leu	Asn
	290					295					300				
Thr	Pro	Val	Thr	Thr	Pro	Glu	Ala	Thr	Val	Thr	Val	Thr	Gln	Ser	Thr
305					310					315					320
Thr	Ile	Asn	Leu	Asn	Thr	Gln	Asn	Phe	Thr	Thr	Ala	Arg	Met	Ser	Asn
				325					330					335	
Val	Thr	Lys	Gln	Thr	Gln	Gly	Gln	Ser	Val	Lys	Ala	Met	Met	Ser	Ser
			340					345					350		
Thr	Ile	Thr	Thr	Glu	Arg	Pro	Thr	Met	Pro	Thr	Ser	Thr	Thr	Ser	Thr
		355					360					365			
Ser	Thr	Met	Thr	Pro	Gly	Thr	Asn	Thr	Thr	Thr	Ile	Ala	Thr	Pro	Leu
	370					375					380				
Val	Val	Pro	Lys	Gln	Leu	Ala	Ser	Val	Thr	Val	Gly	Gln	Val	Ser	Asn
385					390					395					400
Ser	Tyr	Lys	Leu	Pro	Tyr	Asn	Trp	Ile	Gly	Thr	Gly	His	Val	Val	Tyr
				405					410					415	
Ser	Gly	Ser	Phe	Phe	Tyr	Asn	Arg	Ala	Phe	Ser	Arg	Asp	Ile	Ile	Arg
			420					425					430		

Phe Asp Leu Arg Leu Arg Tyr Val Ala Ala Trp Thr Thr Leu His Asp
435 440 445

Ala Ile Leu Glu Glu Glu Glu Ala Pro Trp Thr Trp Gly Gly His Ser
450 455 460

Asp Ile Asp Phe Ser Val Asp Glu Ser Gly Leu Trp Leu Val Tyr Pro
465 470 475 480

Ala Leu Asp Asp Glu Gly Phe His Gln Glu Val Ile Ile Leu Ser Lys
485 490 495

Leu Arg Ala Ser Asp Leu Gln Lys Glu Lys Ser Trp Arg Thr Gly Leu
500 505 510

Arg Arg Asn Tyr Tyr Gly Asn Cys Phe Val Ile Cys Gly Val Leu Tyr
515 520 525

Ala Val Asp Ser Phe Glu Arg Thr His Ala Asn Ile Ser Tyr Ala Phe
530 535 540

Asp Thr His Thr His Thr Gln Met Ile Pro Arg Leu Pro Phe Ile Asn
545 550 555 560

Asn Tyr Thr Tyr Thr Thr Gln Ile Asp Tyr Asn Pro Lys Glu Arg Met
565 570 575

Leu Tyr Ala Trp Asp Asn Gly His Gln Val Thr Tyr Asp Val Ile Phe
580 585 590

Ala Tyr

<210> 3
<211> 146
<212> PRT
<213> Danio rerio

<400> 3

Met Trp Arg Ile Val Glu Leu Val Ala Cys Leu Leu Met Met Ser Ser
1 5 10 15

His Val Ser Ser Gln Ser Lys Ile Phe Gly Glu Glu Gln Val Arg Met
 20 25 30

Thr Ser Glu Gly Ser Asp Cys Arg Cys Lys Cys Ile Met Arg Pro Leu
 35 40 45

Thr Arg Asp Ala Cys Ala Arg Leu Arg Thr Gly Ser Val Arg Val Glu
 50 55 60

Asp Phe Tyr Thr Val Glu Thr Val Ser Ser Gly Ala Asp Cys Lys Cys
 65 70 75 80

Ser Cys Thr Ala Pro Pro Ser Ser Leu Asn Pro Cys Glu Asn Glu Trp
 85 90 95

Lys Arg Glu Lys Leu Lys Lys Gln Ala Pro Glu Leu Leu Lys Leu Gln
 100 105 110

Ser Met Val Asp Leu Leu Glu Gly Thr Leu Phe Ser Met Asp Leu Leu
 115 120 125

Lys Val His Ser Tyr Ile Asn Lys Val Val Ser Gln Met Asn Asn Leu
 130 135 140

Glu Glu
 145

<210> 4
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 <212> PRT
 <213> Danio rerio

<220>
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 <222> (103)..(103)
 <223> Xaa can be any naturally occurring amino acid

<400> 4

Met Trp Ile Tyr Ala Ser Val Leu Thr Tyr Leu Leu Leu Leu Thr Arg
 1 5 10 15

Asp Ala Arg Ser Leu Ser Lys Ile Phe Gly Glu Pro Glu Pro Val Lys

20					25					30					
Met	Ile	Ser	Glu	Gly	Ser	Asp	Cys	Arg	Cys	Lys	Cys	Val	Met	Arg	Pro
		35					40					45			
Leu	Ser	Ile	Glu	Ala	Cys	Ser	Arg	Leu	Arg	Asp	Gly	Ser	Leu	Arg	Val
	50					55					60				
Asp	Asp	Phe	Tyr	Thr	Val	Glu	Thr	Val	Ser	Ser	Gly	Ser	Asp	Cys	Lys
65						70					75				80
Cys	Ser	Cys	Thr	Ala	Pro	Pro	Ser	Ser	Leu	Asn	Pro	Cys	Glu	Asn	Glu
				85					90					95	
Trp	Arg	Thr	Glu	Lys	Leu	Xaa	Lys	Gln	Ala	Pro	Glu	Leu	Leu	Lys	Leu
			100					105						110	
His	Ser	Met	Val	Asp	Leu	Leu	Glu	Gly	Thr	Leu	Tyr	Ser	Met	Asp	Leu
		115					120					125			
Met	Lys	Val	His	Ala	Tyr	Met	Asn	Lys	Val	Val	Ser	Gln	Met	Asn	Thr
	130					135					140				
Leu	Glu	Glu	Val	Met	Thr	Ile	Lys	Thr	Asn	Leu	Thr	Arg	Glu	Asn	Glu
145						150					155				160
Phe	Val	Arg	Asp	Ser	Val	Val	Asn	Leu	Ser	Asn	Gln	Leu	Lys	Arg	Tyr
				165					170					175	
Glu	Asn	Tyr	Ser	Asp	Ile	Met	Val	Ser	Ile	Lys	Lys	Glu	Ile	Ser	Ser
			180					185					190		
Leu	Gly	Leu	Gln	Leu	Leu	Gln	Lys	Asp	Ala	Ala	Ser	Asp	Ser	Lys	Ala
		195					200					205			
Gln	Val	Gly	Thr	Glu	Ser	Lys	Lys	Ser	Lys	Glu	Ala	Ile	Lys	Pro	Pro
	210					215					220				
Asn	Lys	Lys	Pro	Pro	Ala	Val	Lys	Pro	Pro	Pro	Lys	Gln	Pro	Lys	Glu
225						230					235				240

Lys Pro Val Lys Pro Lys Lys Glu Ala Pro Ala Lys Ala Ala Lys Pro
245 250 255

Ala Lys Pro Asp Pro Thr Thr Lys Thr Lys Thr Ser Val His Gln Thr
260 265 270

Gly Val Ile Arg Gly Ile Thr Tyr Tyr Lys Ala Ser Lys Ser Glu
275 280 285

<210> 5
<211> 21
<212> DNA
<213> Mus musculus

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gttttggtcg tcgtcgctcg g 21

<210> 6
<211> 21
<212> DNA
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<400> 6
cgtcttatgg ggtcgggtgt c 21

<210> 7
<211> 25
<212> DNA
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<400> 7
gaggaaaatg acatagaaga gcagc 25

<210> 8
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<212> DNA
<213> Mus musculus

<400> 8
gctgatcttc tatcagcaag tcca 24

<210> 9
<211> 26
<212> DNA
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<400> 9
cgatgagctt ttcagtggcg acagtg 26

<210> 10
 <211> 746
 <212> PRT
 <213> Mus musculus

<400> 10

Met Ala Tyr Pro Leu Pro Leu Val Leu Cys Phe Ala Leu Val Val Ala
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Gln Val Trp Gly Ser Thr Thr Pro Pro Thr Gly Thr Ser Glu Pro Pro
 20 25 30

Asp Val Gln Thr Val Glu Pro Thr Glu Asp Asp Ile Leu Gln Asn Glu
 35 40 45

Ala Asp Asn Gln Glu Asn Val Leu Ser Gln Leu Leu Gly Asp Tyr Asp
 50 55 60

Lys Val Lys Ala Val Ser Glu Gly Ser Asp Cys Gln Cys Lys Cys Val
 65 70 75 80

Val Arg Pro Leu Gly Arg Asp Ala Cys Gln Arg Ile Asn Gln Gly Ala
 85 90 95

Ser Arg Lys Glu Asp Phe Tyr Thr Val Glu Thr Ile Thr Ser Gly Ser
 100 105 110

Ser Cys Lys Cys Ala Cys Val Ala Pro Pro Ser Ala Val Asn Pro Cys
 115 120 125

Glu Gly Asp Phe Arg Leu Gln Lys Leu Arg Glu Ala Asp Ser Arg Asp
 130 135 140

Leu Lys Leu Ser Thr Ile Ile Asp Met Leu Glu Gly Ala Phe Tyr Gly
 145 150 155 160

Leu Asp Leu Leu Lys Leu His Ser Val Thr Thr Lys Leu Val Gly Arg
 165 170 175

Val Asp Lys Leu Glu Glu Glu Val Ser Lys Asn Leu Thr Lys Glu Asn
 180 185 190

Glu Gln Ile Lys Glu Asp Val Glu Glu Ile Arg Thr Glu Leu Asn Lys
195 200 205

Arg Gly Lys Glu Asn Cys Ser Asp Asn Thr Leu Glu Ser Met Pro Asp
210 215 220

Ile Arg Ser Ala Leu Gln Arg Asp Ala Ala Ala Ala Tyr Ala His Pro
225 230 235 240

Glu Tyr Glu Glu Arg Phe Leu Gln Glu Glu Thr Val Ser Gln Gln Ile
245 250 255

Asn Ser Ile Glu Leu Leu Arg Thr Gln Pro Leu Val Pro Pro Ala Ala
260 265 270

Met Lys Pro Gln Arg Pro Leu Gln Arg Gln Val His Leu Arg Gly Arg
275 280 285

Leu Ala Ser Lys Pro Thr Val Ile Arg Gly Ile Thr Tyr Tyr Lys Ala
290 295 300

Lys Val Ser Glu Glu Glu Asn Asp Ile Glu Glu Gln His Asp Glu Leu
305 310 315 320

Phe Ser Gly Asp Ser Gly Val Asp Leu Leu Ile Glu Asp Gln Leu Leu
325 330 335

Arg Gln Glu Asp Leu Leu Thr Ser Ala Thr Arg Arg Pro Ala Thr Thr
340 345 350

Arg His Thr Ala Ala Val Thr Thr Asp Ala Ser Ile Gln Ala Ala Ala
355 360 365

Ser Ser Ser Glu Pro Ala Gln Ala Ser Ala Ser Ala Ser Ser Phe Val
370 375 380

Glu Pro Ala Pro Gln Ala Ser Asp Arg Glu Leu Leu Ala Thr Pro Gln
385 390 395 400

Thr Thr Thr Val Phe Pro Glu Pro Thr Gly Val Met Pro Ser Thr Gln

405					410					415						
Val	Ser	Pro	Thr	Thr	Val	Ala	His	Thr	Ala	Val	Gln	Pro	Leu	Pro	Ala	
420					425					430						
Met	Val	Pro	Gly	Asp	Ile	Phe	Val	Glu	Ala	Leu	Pro	Leu	Val	Pro	Leu	
435					440					445						
Leu	Pro	Asp	Thr	Val	Gly	Thr	Asp	Met	Pro	Glu	Glu	Glu	Gly	Thr	Ala	
450					455					460						
Gly	Gln	Glu	Ala	Thr	Ser	Ala	Gly	Pro	Ile	Leu	Ser	Pro	Glu	Glu	Glu	
465					470					475					480	
Asp	Asp	Ile	Arg	Asn	Val	Ile	Gly	Arg	Cys	Lys	Asp	Thr	Leu	Ser	Thr	
485					490					495						
Ile	Thr	Gly	Pro	Thr	Thr	Gln	Asn	Thr	Tyr	Gly	Arg	Asn	Glu	Gly	Ala	
500					505					510						
Trp	Met	Lys	Asp	Pro	Leu	Ala	Lys	Asp	Asp	Arg	Ile	Tyr	Val	Thr	Asn	
515					520					525						
Tyr	Tyr	Tyr	Gly	Asn	Thr	Leu	Val	Glu	Phe	Arg	Asn	Leu	Glu	Asn	Phe	
530					535					540						
Lys	Gln	Gly	Arg	Trp	Ser	Asn	Ser	Tyr	Lys	Leu	Pro	Tyr	Ser	Trp	Ile	
545					550					555					560	
Gly	Thr	Gly	His	Val	Val	Tyr	Asn	Gly	Ala	Phe	Tyr	Tyr	Asn	Arg	Ala	
565					570					575						
Phe	Thr	Arg	Asn	Ile	Ile	Lys	Tyr	Asp	Leu	Lys	Gln	Arg	Tyr	Val	Ala	
580					585					590						
Ala	Trp	Ala	Met	Leu	His	Asp	Val	Ala	Tyr	Glu	Glu	Ala	Thr	Pro	Trp	
595					600					605						
Arg	Trp	Gln	Gly	His	Ser	Asp	Val	Asp	Phe	Ala	Val	Asp	Glu	Asn	Gly	
610					615					620						

Leu Trp Leu Ile Tyr Pro Ala Leu Asp Asp Glu Gly Phe Asn Gln Glu
625 630 635 640

Val Ile Val Leu Ser Lys Leu Asn Ala Val Asp Leu Ser Thr Gln Lys
645 650 655

Glu Thr Thr Trp Arg Thr Gly Leu Arg Arg Asn Phe Tyr Gly Asn Cys
660 665 670

Phe Val Ile Cys Gly Val Leu Tyr Ala Val Asp Ser Tyr Asn Gln Arg
675 680 685

Asn Ala Asn Ile Ser Tyr Ala Phe Asp Thr His Thr Asn Thr Gln Ile
690 695 700

Val Pro Arg Leu Leu Phe Glu Asn Glu Tyr Ser Tyr Thr Thr Gln Ile
705 710 715 720

Asp Tyr Asn Pro Lys Asp Arg Leu Leu Tyr Ala Trp Asp Asn Gly His
725 730 735

Gln Val Thr Tyr His Val Ile Phe Ala Tyr
740 745

<210> 11
<211> 861
<212> PRT
<213> Homo sapiens

<400> 11

Met Ala Lys Pro Arg Leu Leu Val Leu Tyr Phe Ala Leu Ile Val Val
1 5 10 15

Pro Ala Trp Val Ser Ser Ile Val Leu Thr Gly Thr Ser Glu Pro Pro
20 25 30

Asp Ala Gln Thr Val Ala Pro Ala Glu Asp Glu Thr Leu Gln Asn Glu
35 40 45

Ala Asp Asn Gln Glu Asn Val Leu Ser Gln Leu Leu Gly Asp Tyr Asp
50 55 60

Lys Val Lys Ala Met Ser Glu Gly Ser Asp Cys Gln Cys Lys Cys Val
65 70 75 80

Val Arg Pro Leu Gly Arg Asp Ala Cys Gln Arg Ile Asn Ala Gly Ala
85 90 95

Ser Arg Lys Glu Asp Phe Tyr Thr Val Glu Thr Ile Thr Ser Gly Ser
100 105 110

Ser Cys Lys Cys Ala Cys Val Ala Pro Pro Ser Ala Leu Asn Pro Cys
115 120 125

Glu Gly Asp Phe Arg Leu Gln Lys Leu Arg Glu Ala Asp Ser Gln Asp
130 135 140

Leu Lys Val Gly Pro Gly Met Gly Gln Cys Leu Gly Arg Glu Gly Thr
145 150 155 160

Phe Glu Ile His Lys Ser Gly Lys Ala Met Val Glu Asp Ser Lys Pro
165 170 175

Phe Glu Glu Gly Leu Ser His Phe Leu Thr Gln Thr Phe Arg Lys Ala
180 185 190

Glu Cys Thr Tyr Thr Ile Val Leu Ala Tyr Ile Pro Val Tyr Thr Asn
195 200 205

Val Phe Leu Thr Ala Thr Ser Gln Phe Leu Ala Ser Gly Phe Pro Val
210 215 220

Glu Pro Pro Leu Ser Thr Ile Ile Asp Met Leu Glu Gly Ala Phe Tyr
225 230 235 240

Gly Leu Asp Leu Leu Lys Leu His Ser Val Thr Thr Lys Leu Val Gly
245 250 255

Arg Val Asp Lys Leu Glu Glu Met Leu Glu Gly Ala Phe Tyr Gly Leu
260 265 270

Asp Leu Leu Lys Leu His Ser Val Thr Thr Lys Leu Val Gly Arg Val
275 280 285

Asp Lys Leu Glu Glu Glu Val Ser Lys Asn Leu Thr Lys Glu Asn Glu
290 295 300

Gln Ile Lys Glu Asp Met Glu Glu Ile Arg Thr Glu Met Asn Lys Arg
305 310 315 320

Gly Lys Glu Asn Cys Ser Glu Asn Ile Leu Asp Ser Met Pro Asp Ile
325 330 335

Arg Ser Ala Leu Gln Arg Asp Ala Ala Ala Tyr Ala His Pro Glu
340 345 350

Tyr Glu Glu Arg Phe Leu Gln Glu Glu Thr Val Ser Gln Gln Ile Asn
355 360 365

Ser Ile Glu Leu Leu Gln Thr Arg Pro Leu Ala Leu Pro Glu Val Val
370 375 380

Lys Ser Gln Arg Pro Leu Gln Arg Gln Val His Leu Arg Gly Arg Pro
385 390 395 400

Ala Ser Gln Pro Thr Val Ile Arg Gly Ile Thr Tyr Tyr Lys Ala Lys
405 410 415

Val Ser Glu Glu Glu Asn Asp Ile Glu Glu Gln Gln Asp Glu Phe Phe
420 425 430

Ser Gly Asp Asn Gly Val Asp Leu Leu Ile Glu Asp Gln Leu Leu Arg
435 440 445

His Asn Gly Leu Met Thr Ser Val Thr Arg Arg Pro Ala Ala Thr Arg
450 455 460

Gln Gly His Ser Thr Ala Val Thr Ser Asp Leu Asn Ala Arg Thr Ala
465 470 475 480

Pro Trp Ser Ser Ala Leu Pro Gln Pro Ser Thr Ser Asp Pro Ser Ile
485 490 495

Ala Asn His Ala Ser Val Gly Pro Thr Leu Gln Thr Thr Ser Val Ser
500 505 510

Pro Asp Pro Thr Arg Glu Ser Val Leu Gln Pro Ser Pro Gln Val Pro
515 520 525

Ala Thr Thr Val Ala His Thr Ala Thr Gln Gln Pro Ala Ala Pro Ala
530 535 540

Pro Pro Ala Val Ser Pro Arg Glu Ala Leu Met Glu Ala Met His Thr
545 550 555 560

Val Pro Val Pro Pro Thr Thr Val Arg Thr Asp Ser Leu Gly Lys Asp
565 570 575

Ala Pro Ala Gly Trp Gly Thr Thr Pro Ala Ser Pro Thr Leu Ser Pro
580 585 590

Glu Glu Glu Asp Asp Ile Arg Asn Val Ile Gly Arg Cys Lys Asp Thr
595 600 605

Leu Ser Thr Ile Thr Gly Pro Thr Thr Gln Asn Thr Tyr Gly Arg Asn
610 615 620

Glu Gly Ala Trp Met Lys Asp Pro Leu Ala Lys Asp Glu Arg Ile Tyr
625 630 635 640

Val Thr Asn Tyr Tyr Tyr Gly Asn Thr Leu Val Glu Phe Arg Asn Leu
645 650 655

Glu Asn Phe Lys Gln Gly Arg Trp Ser Asn Ser Tyr Lys Leu Pro Tyr
660 665 670

Ser Trp Ile Gly Thr Gly His Val Val Tyr Asn Gly Ala Phe Tyr Tyr
675 680 685

Asn Arg Ala Phe Thr Arg Asn Ile Ile Lys Tyr Asp Leu Lys Gln Arg
690 695 700

Tyr Val Ala Ala Trp Ala Met Leu His Asp Val Ala Tyr Glu Glu Ala
705 710 715 720

Thr Pro Trp Arg Trp Gln Gly His Ser Asp Val Asp Phe Ala Val Asp

725

730

735

Glu Asn Gly Leu Trp Leu Ile Tyr Pro Ala Leu Asp Asp Glu Gly Phe
 740 745 750

Ser Gln Glu Val Ile Val Leu Ser Lys Leu Asn Ala Ala Asp Leu Ser
 755 760 765

Thr Gln Lys Glu Thr Thr Trp Arg Thr Gly Leu Arg Arg Asn Phe Tyr
 770 775 780

Gly Asn Cys Phe Val Ile Cys Gly Val Leu Tyr Ala Val Asp Ser Tyr
 785 790 795 800

Asn Gln Arg Asn Ala Asn Ile Ser Tyr Ala Phe Asp Thr His Thr Asn
 805 810 815

Thr Gln Ile Val Pro Arg Leu Leu Phe Glu Asn Glu Tyr Ser Tyr Thr
 820 825 830

Thr Gln Ile Asp Tyr Asn Pro Lys Asp Arg Leu Leu Tyr Ala Trp Asp
 835 840 845

Asn Gly His Gln Val Thr Tyr His Val Ile Phe Ala Tyr
 850 855 860

<210> 12

<211> 681

<212> PRT

<213> Mus musculus

<400> 12

Met Glu Ala Ala Ala Val Leu Pro Arg Tyr Leu Gln Leu Arg Leu Leu
 1 5 10 15

Leu Val Leu Leu Leu Leu Val Leu Leu Arg Ala Gly Pro Val Trp Pro
 20 25 30

Asp Ser Lys Val Phe Ser Asp Leu Asp Gln Val Arg Met Thr Ser Glu
 35 40 45

Gly Ser Asp Cys Arg Cys Lys Cys Ile Met Arg Pro Leu Ser Lys Asp

50					55					60					
Ala	Cys	Ser	Arg	Val	Arg	Ser	Gly	Arg	Ala	Arg	Val	Glu	Asp	Phe	Tyr
65					70					75					80
Thr	Val	Glu	Thr	Val	Ser	Ser	Gly	Ala	Asp	Cys	Arg	Cys	Ser	Cys	Thr
				85					90					95	
Ala	Pro	Pro	Ser	Ser	Leu	Asn	Pro	Cys	Glu	Asn	Glu	Trp	Lys	Met	Glu
			100					105					110		
Lys	Leu	Lys	Lys	Gln	Ala	Pro	Glu	Leu	Leu	Lys	Leu	Gln	Ser	Met	Val
		115					120					125			
Asp	Leu	Leu	Glu	Gly	Ala	Leu	Tyr	Ser	Met	Asp	Leu	Met	Lys	Val	His
	130					135					140				
Ala	Tyr	Ile	Gln	Lys	Val	Ala	Ser	Gln	Met	Asn	Thr	Leu	Glu	Glu	Ser
145					150					155					160
Ile	Lys	Ala	Asn	Leu	Ser	Leu	Glu	Asn	Lys	Val	Val	Lys	Asp	Ser	Val
				165					170					175	
His	His	Leu	Ser	Glu	Gln	Leu	Lys	Ser	Tyr	Glu	Asn	Gln	Ser	Ala	Ile
			180					185					190		
Met	Met	Ser	Ile	Lys	Lys	Glu	Leu	Ser	Ser	Leu	Gly	Leu	Gln	Leu	Leu
		195					200					205			
Gln	Arg	Asp	Ala	Ala	Ala	Val	Pro	Ala	Thr	Ala	Pro	Ala	Ser	Ser	Pro
	210					215					220				
Asp	Ser	Lys	Ala	Gln	Asp	Thr	Ala	Gly	Gly	Gln	Gly	Arg	Asp	Leu	Asn
225					230					235					240
Lys	Tyr	Gly	Ser	Ile	Gln	Lys	Ser	Phe	Ser	Asp	Lys	Gly	Leu	Ala	Lys
				245					250					255	
Pro	Pro	Lys	Glu	Lys	Leu	Leu	Lys	Val	Glu	Lys	Leu	Arg	Lys	Glu	Ser
			260					265					270		

Ile Lys Gly Arg Ile Pro Gln Pro Thr Ala Arg Pro Arg Ala Leu Ala
275 280 285

Gln Gln Gln Ala Val Ile Arg Gly Phe Thr Tyr Tyr Lys Ala Gly Arg
290 295 300

Gln Glu Ala Arg Gln Glu Ala Arg Gln Glu Ala Pro Lys Ala Ala Ala
305 310 315 320

Asp Ser Thr Leu Lys Gly Thr Ser Trp Leu Glu Lys Leu Pro Pro Lys
325 330 335

Ile Glu Ala Lys Leu Pro Glu Pro Asn Ser Ala Lys His Asp Asp Val
340 345 350

Arg Leu Gln Ala Ser Glu Gly Gly Asn Leu Thr Pro Asp Ile Thr Thr
355 360 365

Thr Thr Thr Ser Thr Ser Ser Ser Thr Thr Thr Thr Thr Gly Thr Thr
370 375 380

Ser Thr Thr Ser Thr Thr Ser Thr Thr Ser Thr Thr Thr Pro Ser Pro
385 390 395 400

Ile Thr Thr Pro Trp Pro Thr Glu Pro Pro Leu His Pro Glu Val Pro
405 410 415

Ser Gln Gly Arg Glu Asp Ser Cys Glu Gly Thr Leu Arg Ala Val Asp
420 425 430

Pro Pro Val Lys His His Ser Tyr Gly Arg His Glu Gly Ala Trp Met
435 440 445

Lys Asp Pro Ala Ala Leu Asp Asp Arg Ile Tyr Val Thr Asn Tyr Tyr
450 455 460

Tyr Gly Asn Ser Leu Val Glu Phe Arg Asn Leu Glu Asn Phe Lys Gln
465 470 475 480

Gly Arg Trp Ser Asn Met Tyr Lys Leu Pro Tyr Asn Trp Ile Gly Thr
485 490 495

Gly His Val Val Tyr Gln Gly Ala Phe Tyr Tyr Asn Arg Ala Phe Thr
500 505 510

Lys Asn Ile Ile Lys Tyr Asp Leu Arg Gln Arg Phe Val Ala Ser Trp
515 520 525

Ala Leu Leu Pro Asp Val Val Tyr Glu Asp Thr Thr Pro Trp Lys Trp
530 535 540

Arg Gly His Ser Asp Ile Asp Phe Ala Val Asp Glu Ser Gly Leu Trp
545 550 555 560

Val Ile Tyr Pro Ala Val Asp Glu His Asp Glu Thr Gln His Glu Val
565 570 575

Ile Val Leu Ser Arg Leu Asp Pro Ala Asp Leu Ser Val His Arg Glu
580 585 590

Thr Thr Trp Lys Thr Arg Leu Arg Arg Asn Ser Tyr Gly Asn Cys Phe
595 600 605

Leu Val Cys Gly Ile Leu Tyr Thr Val Asp Thr Tyr Asn Gln His Glu
610 615 620

Gly Gln Val Ala Tyr Ala Phe Asp Thr His Thr Gly Thr Asp Ala His
625 630 635 640

Pro Gln Leu Pro Phe Leu Asn Glu Tyr Ser Tyr Thr Thr Gln Val Asp
645 650 655

Tyr Asn Pro Lys Glu Arg Val Leu Tyr Ala Trp Asp Asn Gly His Gln
660 665 670

Leu Thr Tyr Thr Leu His Phe Val Val
675 680

<210> 13
<211> 704
<212> PRT
<213> Homo sapiens

<400> 13

Met	Ala	Ala	Ala	Ala	Leu	Pro	Pro	Arg	Pro	Leu	Leu	Leu	Leu	Pro	Leu	
1				5					10					15		
Val	Leu	Leu	Leu	Ser	Gly	Arg	Pro	Thr	Arg	Ala	Asp	Ser	Lys	Val	Phe	
			20					25					30			
Gly	Asp	Leu	Asp	Gln	Val	Arg	Met	Thr	Ser	Glu	Gly	Ser	Asp	Cys	Arg	
		35					40					45				
Cys	Lys	Cys	Ile	Met	Arg	Pro	Leu	Ser	Lys	Asp	Ala	Cys	Ser	Arg	Val	
	50					55					60					
Arg	Ser	Gly	Arg	Ala	Arg	Val	Glu	Asp	Phe	Tyr	Thr	Val	Glu	Thr	Val	
65					70				75						80	
Ser	Ser	Gly	Thr	Asp	Cys	Arg	Cys	Ser	Cys	Thr	Ala	Pro	Pro	Ser	Ser	
				85					90					95		
Leu	Asn	Pro	Cys	Glu	Asn	Glu	Trp	Lys	Met	Glu	Lys	Leu	Lys	Lys	Gln	
			100					105					110			
Ala	Pro	Glu	Leu	Leu	Lys	Ser	Ile	Lys	Ala	Asn	Leu	Ser	Arg	Glu	Asn	
		115					120					125				
Glu	Val	Val	Lys	Asp	Ser	Val	Arg	His	Leu	Ser	Glu	Gln	Leu	Arg	His	
	130					135					140					
Tyr	Glu	Asn	His	Ser	Ala	Ile	Met	Leu	Gly	Ile	Lys	Lys	Glu	Leu	Ser	
145					150					155					160	
Arg	Leu	Gly	Leu	Gln	Leu	Leu	Gln	Lys	Asp	Ala	Ala	Ala	Ala	Pro	Ala	
				165					170					175		
Thr	Pro	Ala	Thr	Gly	Thr	Gly	Ser	Lys	Ala	Gln	Asp	Thr	Ala	Arg	Gly	
			180					185					190			
Lys	Gly	Lys	Asp	Ile	Ser	Lys	Tyr	Gly	Ser	Val	Gln	Lys	Ser	Phe	Ala	
		195					200					205				
Asp	Arg	Gly	Leu	Pro	Lys	Pro	Pro	Lys	Glu	Lys	Leu	Leu	Gln	Val	Glu	
	210					215					220					

Lys Leu Arg Lys Glu Ser Gly Lys Gly Ser Phe Leu Gln Pro Thr Ala
 225 230 235 240

Lys Pro Arg Ala Leu Ala Gln Gln Gln Ala Val Ile Arg Gly Phe Thr
 245 250 255

Tyr Tyr Lys Ala Gly Lys Gln Glu Val Thr Glu Ala Val Ala Asp Asn
 260 265 270

Ala Leu Gln Gly Thr Ser Trp Leu Glu Gln Leu Pro Pro Lys Val Glu
 275 280 285

Gly Arg Ser Asn Ser Ala Glu Pro Asn Ser Ala Glu Gln Asp Glu Ala
 290 295 300

Glu Pro Arg Ser Ser Glu Arg Val Asp Leu Ala Ser Gly Thr Thr His
 305 310 315 320

Leu Ile Leu Pro Pro His Ser Leu His His His Ser Thr Pro Val Leu
 325 330 335

Ala Thr Pro Ala Pro Phe His Leu Gln Cys His Asn Lys Pro Val Pro
 340 345 350

Ser Pro Arg Arg Trp Gln Thr Thr Pro Ser Arg Ala Leu Pro Gly Trp
 355 360 365

Ser Asn Cys Arg Pro Arg Trp Arg Ala Gly Pro Thr Pro Gln Ser Pro
 370 375 380

Thr Pro Gln Ser Arg Met Arg Leu Ser Pro Gly Pro Pro Ser Glu Trp
 385 390 395 400

Thr Trp Leu Leu Ala Pro His Phe Asn Pro Cys His His His His Arg
 405 410 415

His Pro His Pro Gln Pro Pro Thr Thr Ser Leu Leu Pro Thr Glu Pro
 420 425 430

Pro Ser Gly Pro Glu Val Ser Ser Gln Gly Arg Glu Ala Ser Cys Glu

435																
Gly	Thr	Leu	Arg	Ala	Val	Asp	Pro	Pro	Val	Arg	His	His	Ser	Tyr	Gly	
450						455					460					
Arg	His	Glu	Gly	Ala	Trp	Met	Lys	Asp	Pro	Ala	Ala	Arg	Asp	Asp	Arg	
465					470					475					480	
Ile	Tyr	Val	Thr	Asn	Tyr	Tyr	Tyr	Gly	Asn	Ser	Leu	Val	Glu	Phe	Arg	
				485					490					495		
Asn	Leu	Glu	Asn	Phe	Lys	Gln	Gly	Arg	Trp	Ser	Asn	Met	Tyr	Lys	Leu	
			500					505					510			
Pro	Tyr	Asn	Trp	Ile	Gly	Thr	Gly	His	Val	Val	Tyr	Gln	Gly	Ala	Phe	
		515					520					525				
Tyr	Tyr	Asn	Arg	Ala	Phe	Thr	Lys	Asn	Ile	Ile	Lys	Tyr	Asp	Leu	Arg	
	530					535					540					
Gln	Arg	Phe	Val	Ala	Ser	Trp	Ala	Leu	Leu	Pro	Asp	Val	Val	Tyr	Glu	
545					550					555					560	
Asp	Thr	Thr	Pro	Trp	Lys	Trp	Arg	Gly	His	Ser	Asp	Ile	Asp	Phe	Ala	
				565					570					575		
Val	Asp	Glu	Ser	Gly	Leu	Trp	Val	Ile	Tyr	Pro	Ala	Val	Asp	Asp	Arg	
			580					585					590			
Asp	Glu	Ala	Gln	Pro	Glu	Val	Ile	Val	Leu	Ser	Arg	Leu	Asp	Pro	Gly	
		595					600					605				
Asp	Leu	Ser	Val	His	Arg	Glu	Thr	Thr	Trp	Lys	Thr	Arg	Leu	Arg	Arg	
	610					615					620					
Asn	Ser	Tyr	Gly	Asn	Cys	Phe	Leu	Val	Cys	Gly	Ile	Leu	Tyr	Ala	Val	
625					630					635					640	
Asp	Thr	Tyr	Asn	Gln	Gln	Glu	Gly	Gln	Val	Ala	Tyr	Ala	Phe	Asp	Thr	
				645					650					655		

His Thr Gly Thr Asp Ala Arg Pro Gln Leu Pro Phe Leu Asn Glu His
660 665 670

Ala Tyr Thr Thr Gln Ile Asp Tyr Asn Pro Lys Glu Arg Val Leu Tyr
675 680 685

Ala Trp Asp Asn Gly His Gln Leu Thr Tyr Thr Leu His Phe Val Val
690 695 700